

Appl. No.: 10/075,580
Amdt. Dated: 07 February 2004
Reply to Office Action mailed 10/07/03

CLAIM AMENDMENTS

Please amend the following claims as indicated:

1. (currently amended) A brake pad assembly for a bicycle having a brake system urging the pad assembly against the rim of the bicycle wheel, the combination comprising:

an elongate support member having a longitudinally extending planar brake shoe supported therefrom, said brake shoe having a closed end planar flanged recess with an open end for receiving multiple individually molded brake pads;

said brake pads sequentially and slidably positioned within said brake shoe in abutting relationship with each formed of a different braking compound for imparting variously ~~a variety~~ of desired braking characteristics to said brake pad assembly; ~~and~~

said brake shoe and said brake pads ~~are~~ configured for interchangeability and replacement of said brake pads ~~pad~~ within said brake shoe ~~means~~; ~~and~~
wherein each of said pads has a rim engaging surface generally coplanar with the other.

2. (currently amended) The brake pad assembly according to Claim 1 wherein said brake shoe has longitudinal transverse curvature substantially in conformance with the radius of the bicycle wheel rim, ~~each of said pads has a rim engaging surface generally coplanar with the other.~~

3. (currently amended) The brake pad assembly according to Claim 1 ~~2~~ wherein each said brake pad is comprised of a top portion for mounting into said brake shoe and a bottom portion extending from said brake shoe, said bottom portion having a braking surface for contact with said bicycle wheel rim, said top portion and said bottom portion defined by an indentation along each non-abutting longitudinal side of said brake pad, said flange having inwardly projecting shoulders for capturing said top portion within said recess.

4. (currently amended) The brake pad assembly according to Claim 3 wherein said brake shoe includes locking means for fixedly positioning said brake pads therein aligned relative to one another and relative to said brake shoe, said locking means including brake shoe capture means for coacting with the brake pad adjacent said open end for restraining said brake pads in said brake shoe. ~~said indentations to slidably receive and restrain said top portion of each said brake pad.~~

5. (currently amended) The brake pad assembly according to Claim 4 wherein said flange capture means includes inwardly projecting shoulders ~~in said brake shoe~~ for engaging coacting with said indentations, said locking means further includes a groove in the brake pad adjacent said open end ~~at least one of said brake pads~~ and a locking pin, and said shoulders ~~brake shoe~~, said groove and said locking pin are configured for ~~mating~~ coacting engagement whereby said individual brake pads are restrained ~~fixedly positioned~~ within said brake shoe .

6. (currently amended) The brake pad assembly according to Claim 1 ~~2~~ wherein said brake shoe has longitudinal transverse curvature substantially in conformance with the radius of the bicycle wheel rim.

7. (currently amended) The brake pad assembly according to Claim 6 ~~2~~ wherein each of said brake pads is molded as a unitary member formed of a different variations of multi-rubber or elastomeric compound compounds and said brake shoe includes locking means for positioning and restraining said brake pads therein;

~~said flanged recess locking means includes inwardly projecting shoulders in said brake shoe and said brake pads include sidewall with mating indentations, said shoulders configured in said brake pads, said brake shoe for slidably receiving said brake pads along said shoulders; and~~

~~said assembly including locking means further includes a groove in the brake pad adjacent said open end for restraining said brake pads in said brake shoe, at least one of said brake pads and a locking pin for coacting engagement whereby said brake pads are captured within said brake shoe.~~

8. (currently amended) A brake pad assembly for a bicycle having a brake system urging a brake shoe against the rim of the bicycle wheel, the assembly comprising:

a bicycle brake shoe having a closed end planar flanged recess with an open end for receiving a plurality of unitary abutting brake pads sequentially positioned therein, each said brake pad having a rim engaging braking surface generally coplanar with the other and each being formed of a different multi-rubber or elastomeric compound, each compound ~~being pre-selected for imparting a different preselected~~ braking characteristic to said brake system;

each of said brake pads configured for slidable interchangeability and replacement within said brake shoe; and

said brake shoe has longitudinal transverse curvature substantially in conformance with the radius of the bicycle wheel rim.

9. (currently amended) The brake pad assembly according to Claim 8 wherein each of said plurality of brake pads is comprised of a top portion and a bottom portion, the portions defined by an indentation on each non-abutting side of said brake pad; and

said brake shoe flange includes inwardly projecting shoulders configured for coacting with said brake pad indentations whereby said brake pads are slidably received along said shoulders in said brake shoe, ~~with~~ said top portion captured in said brake shoe by said flange and said bottom portion extending from said brake shoe with a braking surface for contact with said bicycle wheel rim.

10. (currently amended) The brake pad assembly according to Claim 9 wherein said brake shoe includes locking means for capturing and retaining said plurality of brake pads in abutting arrangement within said brake shoe, said locking means including coacting means in said brake shoe and the brake pad adjacent said open end for restraining said brake pads in said brake shoe, ~~including a first locking component and at least one of said brake pads includes a second locking component, said first and second locking components being configured for coacting engagement whereby said plurality of brake pads are captured within said brake shoe.~~

11. (canceled) The brake pad assembly according to Claim 10 wherein said locking means includes a first locking component and at least one of said brake pads includes a second locking

component, said first and second locking components being configured for coacting engagement whereby said plurality of brake pads are captured within said brake shoe.

12. (currently amended) The brake pad assembly according to Claim 10 +~~4~~ wherein said coacting means for restraining said brake pads in said brake shoe includes a groove in the brake pad adjacent said opening coacting with a locking member inserted transversely of said brake shoe.

13. (currently amended) The brake pad assembly according to Claim 10 wherein said plurality of brake pads are retained in longitudinal planar alignment relative to one another and relative to said brake shoe recess.

14. (currently amended) The brake pad assembly according to Claim 12 +0 wherein said groove is across the top of said pad adjacent said opening and said locking member is a locking pin inserted transversely of said brake shoe. ~~first locking component is a locking pin and said second locking component is a groove in at least one of brake pads, said locking pin and said groove configured for mating coacting engagement whereby said individual brake pads are fixedly positioned and captured within said brake shoe.~~

15. (currently amended) A brake shoe assembly for a bicycle having a brake system urging a brake shoe against the rim of the bicycle wheel, the assembly comprising:

an elongate longitudinally extending brake shoe having a planar recess therein with an open end and a closed end for axially receiving through said open end a plurality of individually molded brake pads in abutting arrangement sequentially positioned within said brake shoe, each brake pad of a different compound having a pre-selected braking characteristics for imparting a different variety of braking characteristics to said brake pad assembly, said brake shoe and said brake pads configured for slidable replacement and interchangeability of said brake pads within said brake shoe;

each of said plurality of brake pads is comprised of a top portion and a bottom portion defined by indentations in each non-abutting side of said brake pad and said brake shoe includes an engagement rail extending completely around said recess except for said open end and having inwardly projecting shoulders configured for coacting engagement with said indentations

whereby said brake pads are slidably received along said rail restrained in an axial position in said brake shoe, shoulders; said top portion contained within said brake shoe by said rail shoulders and said bottom portion extending from said brake shoe and having a braking surface for contact with said bicycle wheel rim; and

 said planar brake shoe having longitudinal transverse curvature substantially in conformance with the radius of the bicycle wheel rim; and

wherein said brake shoe and the brake pad adjacent said open end have coacting means for restraining said brake pads in said brake shoe.

16. (currently amended) The brake pad assembly according to Claim 15 wherein each of said brake pads is molded as an individual unitary member ~~of variations of multi-rubber or elastomeric compounds~~ for imparting a variety of braking characteristics to said brake pad assembly.

17. (currently amended) The brake pad assembly according to Claim 16 +5 wherein each of said brake pads is formed of a different multi-rubber or elastomeric braking compound ~~for imparting a different braking characteristic to said brake assembly.~~

18. (canceled) The brake pad assembly according to Claim 15 wherein said assembly includes locking means for capturing and retaining said interchangeable brake pads within said longitudinally extending brake shoe aligned relative to one another and to said brake shoe;

 said locking means including said inwardly projecting shoulders coacting with said indentations to restrain said first portion of each said brake pad within said brake shoe, and first locking means in said brake shoe and second locking means in at least one of said pad portions, said first and second locking means configured for mating coacting engagement to further capture and retain said plurality of brake pad portions within said brake shoe.

19. (currently amended) The brake pad assembly according to Claim 15 +8 wherein said coacting means for restraining said brake pads in said brake shoe includes a groove in the brake pad adjacent said opening coacting with a locking pin inserted transversely through said brake

~~shoe, first locking means is a groove in at least one of said brake pads and said second locking means is a locking pin.~~

20. (currently amended) The brake pad assembly according to Claim 15 +8 wherein each said brake pad when inserted into said brake shoe has a rim engaging surface generally coplanar with the other.